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ABSTRACT

The mission of the university is fundamentally to interpret, create, and transmit culture and science. The historical development and the needs of the community condition and orientate the university in its task. A rational application of science and technology will contribute to the resolution of many of today's serious problems. A direct relation exists between scientific and technological progress and economic growth. Transference of science and technology to underdeveloped nations, however, is not in itself sufficient to quickly solve their numerous economic and social problems. Real development is possible only if the countries become trained to use the science and technology and introduce deep changes in economic and social systems. Knowledge and techniques developed abroad must be appropriately assimilated into the scientific and cultural pattern of the receiving country. In Chile, the greatest part of scientific and technological capacity is found in universities. It is necessary to establish an international university that authoritarian regimes cannot impoverish. Actions undertaken to inhibit the natural and normal tasks of universities should be condemned. (JDD)

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The mission of the university in science and technology : discovery and application of universal knowledge within diverse social and economic systems

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UNIVERSIDAD TECNICA UNIVERSITY FEDERICO SANTA MARIA
V A L P A R A I S O
C H I L E.

MISSION OF THE UNIVERSITY IN SCIENCE AND TECHNOLOGY DISCOVERIES AND APPLICATIONS OF THE UNIVERSAL KNOWLEDGE WITHIN THE VARIOUS SOCIO-ECONOMICS SYSTEMS.

The mission of the University, with a compressive approach, is fundamentally orientated towards a systematic work of interpretation, creation and transmission of culture and science.

Aiming at the search of truth and its subsequent transferral, the University does research and teaching, making an effort at the same time, to understand and assimilate the social process in which it is inserted.

The historical development and the concrete needs of the community in which it finds itself and it must favor condition and orientate the University in its task, as they indicate the more urgent problems for which enlightening and solutions are expected from it.

Within this context, the University fulfills its mission of generating new knowledge by means of research, understanding it in its broader sense, starting from the supposition that man and the world, forms a unitary and interdependent reality, in which knowledge can be constantly deepened and improved in a coherent way.

Trying to get closer to truth, though using the same methods, it takes advantage of different disciplines demanding from them an increasing development and specialization.

It is certain, and the latest experience shows it, that science and technology have had a conclusive importance and influence on the economic growth and on the improvement of the quality of live in many countries of the contemporary world.

Although, this assertion can be mainly applied to the reality of the development countries, it is certainly even valid for under developed and developing countries. Therefore, a rational application of science and technology will strongly contribute to the resolution of many of the serious problems they have to face nowadays.

If we take into account that in developing countries, great part of the scientific and technological activities take place in Universities, it is easy to conclude how important and decisive the roll corresponding to Universities in the economic growth of those nations can be.

The accumulated scientific and technological knowledge has enough potential to give an answer to the main problems of modern societies, although paradoxically, some of them have been created

by the same technological progress. Several studies carried in industrialized countries show the direct relation between their scientific and technological progress and their economic growth.

For instance, Paul Rosenstein-Rodan has pointed that in developed countries, technology has had an influence of 60 to 80 % on their growth rates, only the remaining 20 to 40 % corresponding to the work and capital items.

In Chile, Mr Raúl Saez S, who works in the Alliance for the Progress of the President Kennedy, found in the doubling of man-hours production observed in the U. S. A. in the period 1909 - 1949, that he could assign 87 % to the technological change and only 13 % to the others productive items.

Another fact evidencing the importance of scientific and technological development and its influence on social and economic development, it that 98 % of the total expenses in research and development in non-socialist countries takes place in industrialized nations, while only the remaining 2 % takes place in developing countries. To the enormous difference between the efforts carried out by both groups of nations, we must add substantial differences in efficiency and performance.

The results observed in developed countries, regarding the productive use of science and technology, gave hope to underdeveloped nations in the sense that they could easily, and on a large scale, take advantages of the spectacular scientific and technological advance produced in the industrialized world, in order to quickly solve their numerous economic and social problems.

It was said that it would be enough to generate some scientific and technological transference devices to make them available to the petitioner.

This simplistic view of the problem, undoubtedly far more complex, has been definitely discarded, because although it is still affirmed that science and technology have the necessary potential to strongly contribute with development, this potential is not sufficient on its own.

A real development will be possible only if the countries wanting to use foreign science and technology become trained for that and at the same time learned to be able to introduce deep changes in their economic and social systems.

The incorporation of knowledge and techniques developed abroad requires an appropriate "assimilation" within the scientific and cultural pattern of the country receiving them.

This could facilitate their application to different situations and permit their flexible management and operation as well as an exploitation of their multiples possibilities.

This assimilation process, different to the mere information transferral, open multiples applications and management possibilities. This will provide with an "insider understanding" of the whole content, thus the information it delivered and the methodology consequences of its operation and use will be granted.

This can be possible only if exist a local scientific and technological capacity, able to "negotiate" with foreign suppliers and to introduce the small or big innovations required.

Undoubtedly, the necessity and urgency of developing certain scientific and technological answers to specific productive problems, makes necessary the presence, in each country, of highly qualified human capacity, updated knowledge and techniques, modern laboratories and methodological traditions, to generate their own science and technology know-how, and to receive and adapt the one that is being generated in others countries.

Chile, a country that could be to a certain degree, representative of the reality of developing nations, the greatest part of scientific and technological capacity is found in Universities.

At least concerning the scientific and technological personnel, 80 % is found in advanced educational institutions, while the 20 % remaining works in research and development organizations, mainly governmental. Private enterprises are practically not involve in those national efforts.

This reality presents a serious challenge to national Universities who are facing the needs in science and technology that are considered essential for national development.

On other hand, we who works at the Universities, strongly believe that our roll in the advancement of science and in the development of applicable knowledge is essential, making it a fundamental task, and who will be leading, in our believe, to a more humane and solidary way of life.

However, we cannot deny that current social and economic conditions of several developing countries, make this roll special and very difficult. Particularly, if we keep in mind that those conditions compel to define priorities mainly oriented towards the attention of urgent needs in health-care, basic preparatory and secondary school education areas, postponing the attention that could be provided, mainly by the state and private activity, to higher and advanced technical and scientific education.

Furthermore, we cannot forget that in the latest decades, many of the developing countries were submitted to authoritarian regimes, for which, Universities and their personnel represented a danger.

Therefore, those regimes discouraged Universities in their current tasks. There were, and even still may happen, frequent interventions and they were, above all, impoverished, finding themselves currently, without the necessary media to fully accomplish their mission.

In those circumstances, I believe it is necessary to establish, open and clearly, that only an international University and a solidary attitude could revert the situation in which, unfortunately, many Universities among the developing countries find themselves at the present time.

A meeting of the importance and hierarchy of this one, should consider seroiusly those maters and eventually undertake as a task the formulation of a public general statement suporting the strugle of Universities currently sufering those problems.

I believe that it is our common task to condem all actions undertaken in order to inhibit the natural and normal tasks of universities all over the world. Concrete and realistic conclusions tending to propose solutions could constitute a big contribution to the development of science and technology in the whole world.